CLAIMS

Claim 1. A method for proliferating terminal differentiated cells comprising: introducing a cyclin and a cyclin dependent kinase into the nucleus of terminal differentiated cells, and cultivating or holding said cells.

Claim 2. A method for proliferating terminal differentiated cells comprising: adding a nucleotide sequence coding for a nuclear localization signal to at lease one of a cyclin gene and a cyclin dependent kinase gene; and introducing each of said genes to terminal differentiated cells *in vitro*, and then cultivating said cells, or introducing each of said genes directly to terminal differentiated cells *in vivo*.

Claim 3. The method of claim 1 or 2, wherein said cyclin activates a mammalian CDK4 or CDK6.

Claim 4. The method of claim 1 or 2, wherein said cyclin dependent kinase is activated by mammalian cyclin.

Claim 5. The method of claim 1 or 2, wherein said terminal differentiated cells are cardiomyocytes, nerve cells, kidney cells, or pancreatic cells.

Claim 6. The method of claim 2, wherein said cyclin gene and said cyclin dependent kinase gene are transferred to the terminal differentiated cells using an adenovirus vector.

Claim 7. A recombinant vector comprising a cyclin gene comprising a nucleotide sequence coding for a nuclear localization signal.

Claim 8. A recombinant vector comprising a cyclin gene and a cyclin dependent kinase gene, wherein at least one of said genes is attached with a nucleotide sequence coding for a nuclear localization signal.

Claim 9. The recombinant vector of claim 7 or 8, wherein said cyclin is a cyclin that is capable of activating a mammalian CDK4 or CDK6.

Claim 10. The recombinant vector of claim 7 or 8, wherein said cyclin dependent kinase is a cyclin dependent kinase that is activated by cyclin D1, D2 or D3.

Claim 11. The recombinant vector of claim 7 or 8, further comprising an adenovirus vector.

Claim 12. A mammalian cell or tissue that was proliferated by the method of claim 1 or 2.

Claim 13. A pharmaceutical composition for proliferating terminal differentiated cells or tissues, comprising an effective amount of the recombinant vector of claim 7, 8 or 15.

Claim 14. A method for treating cardiopathy in a human patient comprising introducing the pharmaceutical composition of claim 13 into the myocardium of the patient, and proliferating a cardiomyocite in the patient.

Claim 15. A recombinant vector comprising a cyclin dependent kinase gene comprising a nucleotide sequence coding for a nuclear localization signal.

Claim 16. The method of claim 2, wherein said gene comprising said nucleotide sequence is introduced to the terminal differentiated cells *in vitro*, and cultivating said cells.

Claim 17. The method of claim 2, wherein said genes comprising said nucleotide sequence is introduced to the terminal differentiated cells *in vivo*.